Semantics is the study of the meanings of words and phrases in language. Semantic elements are elements with a meaning.

**What are Semantic Elements?**

A semantic element clearly describes its meaning to both the browser and the developer. Examples of **non-semantic** elements: <div> and <span> - Tells nothing about its content. Examples of **semantic** elements: <form>, <table>, and <img> - Clearly defines its content.

**Browser Support**

Internet Explorer Firefox Opera Google Chrome Safari

HTML5 semantic elements are supported in all modern browsers. In addition, you can "teach" older browsers how to handle "unknown elements".

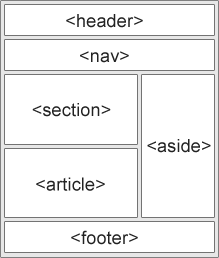
**New Semantic Elements in HTML5**

Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer"> to indicate navigation, header, and footer.

HTML5 offers new semantic elements to define different parts of a web page:

* <article>
* <aside>
* <details>
* <figcaption>
* <figure>
* <footer>
* <header>
* <main>
* <mark>
* <nav>
* <section>
* <summary>
* <time>

**HTML5 <section> Element**



The <section> element defines a section in a document. "A section is a thematic grouping of content, typically with a heading." A Web site's home page could be split into sections for introduction, content, and contact information.

**Example**

<section>  
  <h1>WWF</h1>  
  <p>The World Wide Fund for Nature (WWF) is....</p>  
</section>

**LAB 1**

1. Type the following HTML document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<section>

<h1>WWF</h1>

<p>The World Wide Fund for Nature (WWF) is an international organization working on issues regarding the conservation, research and restoration of the environment, formerly named the World Wildlife Fund. WWF was founded in 1961.</p>

</section>

<section>

<h1>WWF's Panda symbol</h1>

<p>The Panda has become the symbol of WWF. The well-known panda logo of WWF originated from a panda named Chi Chi that was transferred from the Beijing Zoo to the London Zoo in the same year of the establishment of WWF.</p>

</section>

</body>

</html>

**QUESTIONS**

1. What was the purpose of the tag <section>?
2. What effect did the< section> tag have on the document?

**HTML5 <article> Element**

The <article> element specifies independent, self-contained content. An article should make sense on its own, and it should be possible to read it independently from the rest of the web site.

Examples of where an <article> element can be used:

* Forum post
* Blog post
* Newspaper article

**Example**

<article>  
  <h1>What Does WWF Do?</h1>  
  <p>WWF's mission is to stop the degradation of our planet's natural environment,  
  and build a future in which humans live in harmony with nature.</p>  
</article>

**LAB 2**

1. Type the following HTML document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<article>

<h1>What Does WWF Do?</h1>

<p>WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature.</p>

</article>

</body>

</html>

**QUESTIONS**

1. **What did the tag <article> do to the document?**
2. **Add several more article tags in your document. What was the result?**

**Nesting Semantic Elements**

In the HTML5 standard, the <article> element defines a complete, self-contained block of related elements. The <section> element is defined as a block of related elements. Can we use the definitions to decide how to nest elements? No, we cannot! On the Internet, you will find HTML pages with <section> elements containing <article> elements, and <article> elements containing <sections> elements. You will also find pages with <section> elements containing <section> elements, and <article> elements containing <article> elements.

\*\*\*Note: Newspaper: The sports **articles** in the sports **section**, have a technical **section** in each **article.**

**HTML5 <header> Element**

The <header> element specifies a header for a document or section. The <header> element should be used as a container for introductory content. You can have several <header> elements in one document.

The following example defines a header for an article:

**Example**

<article>  
  <header>  
    <h1>What Does WWF Do?</h1>  
    <p>WWF's mission:</p>  
  </header>  
  <p>WWF's mission is to stop the degradation of our planet's natural environment,  
  and build a future in which humans live in harmony with nature.</p>  
</article>

**Lab 3**

1. Create the following HTML document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<article>

<header>

<h1>What Does WWF Do?</h1>

<p>WWF's mission:</p>

</header>

<p>WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature.</p>

</article>

</body>

</html>

**Questions:**

1. What did the header tag do to the document?

**HTML5 <footer> Element**

The <footer> element specifies a footer for a document or section. A <footer> element should contain information about its containing element. A footer typically contains the author of the document, copyright information, links to terms of use, contact information, etc.

You can have several <footer> elements in one document.

**Example**

<footer>  
  <p>Posted by: Hege Refsnes</p>  
  <p>Contact information: <a href="mailto:someone@example.com">  
  someone@example.com</a>.</p>  
</footer>

**LAB 4**

1. Create the following HTML document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<footer>

<p>Posted by: Hege Refsnes</p>

<p>Contact information: <a href="mailto:someone@example.com">

someone@example.com</a>.</p>

</footer>

</body>

</html>

**QUESTIONS**

1. **What did the footer tag do to the HTML document?**
2. **What is the purpose of the footer tag <footer>?**

**HTML5 <nav> Element**

The <nav> element defines a set of navigation links. The <nav> element is intended for large blocks of navigation links. However, not all links in a document should be inside a <nav> element!

**Example**

<nav>  
  <a href="/html/">HTML</a> |  
  <a href="/css/">CSS</a> |  
  <a href="/js/">JavaScript</a> |  
  <a href="/jquery/">jQuery</a>  
</nav>

**LAB 5**

1. Create the following HTML document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<nav>

<a href="/html/">HTML</a> |

<a href="/css/">CSS</a> |

<a href="/js/">JavaScript</a> |

<a href="/jquery/">jQuery</a>

</nav>

</body>

</html>

**QUESTIONS:**

1. What was the purpose of the nav tag?
2. How did the nav tag effect the output?

**HTML5 <aside> Element**

The <aside> element defines some content aside from the content it is placed in (like a sidebar). The aside content should be related to the surrounding content.

**Example**

<p>My family and I visited The Epcot center this summer.</p>  
  
<aside>  
  <h4>Epcot Center</h4>  
  <p>The Epcot Center is a theme park in Disney World, Florida.</p>  
</aside>

**LAB 6**

1. Create the following document
2. Save and View

<!DOCTYPE html>

<html>

<body>

<p>My family and I visited The Epcot center this summer.</p>

<aside>

<h4>Epcot Center</h4>

<p>The Epcot Center is a theme park in Disney World, Florida.</p>

</aside>

</body>

</html>

**QUESTIONS:**

1. What did the <aside> tag do?
2. How did the <aside> tag effect the output?

**HTML5 <figure> and <figcaption> Elements**

In books and newspapers, it is common to have captions with images. The purpose of a caption is to add a visual explanation to an image. With HTML5, images and captions can be grouped together in **<figure>** elements:

\*\*\*Note: The **<img>** element defines the image, the **<figcaption>** element defines the caption.

**Example**

<figure>  
  <img src="pic\_mountain.jpg" alt="The Pulpit Rock" width="304" height="228">  
  <figcaption>Fig1. - The Pulpit Rock, Norway.</figcaption>  
</figure>

**LAB 7**

1. Create the following HTML document.
2. Save and View

<!DOCTYPE html>

<html>

<body>

<p>The Pulpit Rock is a massive cliff 604 metres (1982 feet) above Lysefjorden, opposite the Kjerag plateau, in Forsand, Ryfylke, Norway. The top of the cliff is approximately 25 by 25 metres (82 by 82 feet) square and almost flat, and is a famous tourist attraction in Norway.</p>

<figure>

<img src="img\_pulpit.jpg" alt="The Pulpit Rock" width="304" height="228">

<figcaption>Fig.1 - The Pulpit Rock, Norway.</figcaption>

</figure>

</body>

</html>

**QUESTIONS:**

1. What did the <figcaption> tag do?
2. What did the output looked like?

**Why Semantic HTML5 Elements?**

With HTML4, developers used their own favorite attribute names to style page elements: header, top, bottom, footer, menu, navigation, main, container, content, article, sidebar, topnav, ... This made it impossible for search engines to identify the correct web page content. With HTML5 elements like: <header> <footer> <nav> <section> <article>, this will become easier.

**A Semantic Web**: "Allows data to be shared and reused across applications, enterprises, and communities.”

**Semantic Elements in HTML5**

Below is an alphabetical list of the new semantic elements in HTML5.

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<article>](http://www.w3schools.com/tags/tag_article.asp) | Defines an article |
| [<aside>](http://www.w3schools.com/tags/tag_aside.asp) | Defines content aside from the page content |
| [<details>](http://www.w3schools.com/tags/tag_details.asp) | Defines additional details that the user can view or hide |
| [<figcaption>](http://www.w3schools.com/tags/tag_figcaption.asp) | Defines a caption for a <figure> element |
| [<figure>](http://www.w3schools.com/tags/tag_figure.asp) | Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc. |
| [<footer>](http://www.w3schools.com/tags/tag_footer.asp) | Defines a footer for a document or section |
| [<header>](http://www.w3schools.com/tags/tag_header.asp) | Specifies a header for a document or section |
| [<main>](http://www.w3schools.com/tags/tag_main.asp) | Specifies the main content of a document |
| [<mark>](http://www.w3schools.com/tags/tag_mark.asp) | Defines marked/highlighted text |
| [<nav>](http://www.w3schools.com/tags/tag_nav.asp) | Defines navigation links |
| [<section>](http://www.w3schools.com/tags/tag_section.asp) | Defines a section in a document |
| [<summary>](http://www.w3schools.com/tags/tag_summary.asp) | Defines a visible heading for a <details> element |
| [<time>](http://www.w3schools.com/tags/tag_time.asp) | Defines a date/time |